

1ST GRADE CURRICULUM

Ending project: Testing Cooking with Solar Hot Water

Lesson I: 1st grade

What is Energy?

- Brainstorming activities to begin discussion
- Discussing 4 forms of energy: mechanical, thermal, electrical, chemical

Lesson 2: 1st Grade

Energy Conversion

- Experiments to explore energy conversions, for example:
 - Mechanical energy into thermal energy (rubbing hands together, running in place)
 - Mechanical energy into electrical energy (dynamo flashlight–hand powered flashlight)

Lesson 3: 1st Grade

What is Potential Energy?

- Create Energy Matrix Conversion Charts
- Discuss potential energy of food and sun and their uses in our daily life

Lesson 4: 1st Grade

Energy Conversion: Student Created Experiments

- Supply a variety of everyday objects (jump rope, whistles, musical shakers, wind-up toys, etc) and have students create their own experiments showing cause and effect
- Create Energy Matrix Conversion Charts for their experiments

Lesson 5: 1st Grade

Compiling Data: Creating Flow Charts

- Create flow charts / picture charts to describe experiments from Lessons 2, 3, and 4

Lesson 6: 1st Grade

Heating Water: Brainstorming Different Methods

- Brainstorm what different ways people around the world might heat water
- Introduce International Water Study

Lesson 7: 1st Grade

International Study: Reading Books

- Read 3 books introducing how people live throughout the world (2 books by Ann Morris and 1 book by Barbara Kerly)

Lesson 8: 1st Grade

International Water Study

3 Focus Countries

- Discuss location, climate, daily life, and water use of Kenya, India, and Haiti

Lesson 9: 1st Grade

Solar Hot Water

Comparison Study

- Using a solar hot water bag (Solar Shower) to heat water measure temperature of water every 1/2 hour
- Record and graph findings

Lesson 10: 1st Grade

Solar Hot Water

Making Treats

- Heat water in the solar hot water bag (Solar Shower)
- Make drinks and soup with the heated water